

Datasheet: MCA1033A647

BATCH NUMBER 0414

Description:	RAT ANTI MOUSE CD71:Alexa Fluor® 647
Specificity:	CD71
Other names:	TRANSFERRIN RECEPTOR
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	YTA74.4
Isotype:	IgG2a
Quantity:	100 TESTS/1ml

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			Neat - 1/5

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

Target Species	Mouse		
Product Form	Purified IgG conjugated to Alexa Fluor® 647 - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	Alexa Fluor®647	650	665
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant		
Buffer Solution	Phosphate buffered saline		
Preservative Stabilisers	0.09% Sodium Azide		
	1% Bovine Serum Albumin		
Approx. Protein	IgG concentration 0.05 mg/ml		

Concentrations

Immunogen	Concanavilin A activated mouse spleen cells.
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External Database Links

UniProt:

[Q62351](#)

[Related reagents](#)

Entrez Gene:

[22042](#)

Tfrc

[Related reagents](#)

Synonyms

Tfrr

RRID

AB_324926

Fusion Partners

Spleen cells from an immunised DA rat were fused with cells of the Y3/Ag1.2.3 rat myeloma cell line.

Specificity

Rat anti Mouse CD71 antibody, clone YTA74.4 recognizes the mouse Transferrin receptor protein 1 also known as CD71 or TfR1. CD71 is a 763 amino acid glycoprotein homodimer of ~95 kDa subunits. CD71 is expressed by dividing cells, and functions as a transferrin receptor mediating uptake of iron.

Rat anti Mouse CD71 antibody, clone YTA74.4 blocks the binding of R17 217.1.3. and R17 208.2 anti-TFR monoclonal antibodies ([Trowbridge et al. 1982](#)).

Flow Cytometry

Use 10ul of the suggested working dilution to label 10^6 cells in 100ul.

The Fc region of monoclonal antibodies may bind non-specifically to cells expressing low affinity fc receptors. This may be reduced by using SeroBlock FcR ([BUF041A/B](#)).

References

1. Millot, S. *et al.* (2010) Erythropoietin stimulates spleen BMP4-dependent stress erythropoiesis and partially corrects anemia in a mouse model of generalized inflammation. [Blood. 116: 6072-81.](#)
2. Kuo, Y.M. *et al.* (2004) Mislocalisation of hephaestin, a multicopper ferroxidase involved in basolateral intestinal iron transport, in the sex linked anaemia mouse. [Gut. 53: 201-6.](#)
3. Krysiak, K. *et al.* (2014) Reduced Levels of Hspa9 Attenuates Stat5 Activation in Mouse B-cells. [Exp Hematol. pii: S0301-472X\(14\)00817-0.](#)
4. Byun, M. *et al.* (2007) Cowpox virus exploits the endoplasmic reticulum retention pathway to inhibit MHC class I transport to the cell surface. [Cell Host Microbe. 2: 306-15.](#)
5. Ripich, T. and Jessberger, R. (2011) SWAP-70 regulates erythropoiesis by controlling $\alpha 4$ integrin. [Haematologica. 96: 1743-52.](#)
6. Hadziahmetovic, M. *et al.* (2012) Microarray analysis of murine retinal light damage reveals changes in iron regulatory, complement, and antioxidant genes in the neurosensory retina and isolated RPE. [Invest Ophthalmol Vis Sci. 53 \(9\): 5231-41.](#)
7. Niewoehner, J. *et al.* (2014) Increased brain penetration and potency of a therapeutic antibody using a monovalent molecular shuttle. [Neuron. 81: 49-60.](#)
8. Sands, S.A. *et al.* (2015) The habenula and iron metabolism in cerebral mouse models

of multiple sclerosis. [Neurosci Lett. 606: 204-8.](#)

9. Baumann, B. *et al.* (2017) Conditional Müller Cell Ablation Leads to Retinal Iron Accumulation. [Invest Ophthalmol Vis Sci. 58 \(10\): 4223-34.](#)

10. Nelvagal, H.R. *et al.* (2020) Comparative proteomic profiling reveals mechanisms for early spinal cord vulnerability in CLN1 disease. [Sci Rep. 10 \(1\): 15157.](#)

Further Reading

1. Lesley, J. *et al.* (1984) Expression of transferrin receptor on murine hematopoietic progenitors. [Cell Immunol. 83 \(1\): 14-25.](#)

2. Trowbridge, I.S. *et al.* (1982) Murine cell surface transferrin receptor: studies with an anti-receptor monoclonal antibody. [J Cell Physiol. 112 \(3\): 403-10.](#)

Storage

Store at +4°C or at -20°C if preferred.

This product should be stored undiluted. This product is photosensitive and should be protected from light.

Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

Guarantee

12 months from date of despatch

Acknowledgements

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Health And Safety Information

Material Safety Datasheet documentation #10041 available at: <https://www.bio-rad-antibodies.com/SDS/MCA1033A647>
10041

Regulatory

For research purposes only

Related Products

Recommended Negative Controls

[RAT IgG2a NEGATIVE CONTROL:Alexa Fluor® 647 \(MCA1212A647\)](#)

Recommended Useful Reagents

[MOUSE SEROBLOCK FcR \(BUF041A\)](#)

[MOUSE SEROBLOCK FcR \(BUF041B\)](#)

To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](https://www.bio-rad-antibodies.com/datasheets)

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